Is the incidence of non-renal related incidental findings on CT KUB increased in the elderly?

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Purpose

Objective: To determine the incidence of non renal related incidental findings on CT KUB examinations and whether these findings are more common in elderly patients.

Methods

• 706 examinations were included in the study. Average age was 47 years.
  • 240 of 706 (34.0%) patients scans were positive for a renal tract cause of the presenting symptoms. However, there was significant variation based on the route of referral (p = 0.025).
  • 153 of 264 (57.9%) emergency department, 48 of 184 (26.1%) inpatient, and 39 of 228 (17.1%) GP referrals were positive.

Results

• 3 patients had a new diagnosis on repeat imaging for ongoing persistent symptoms. 2 of these patients were aged less than 50 years. On an extended 6 month follow up period, two further “missed” diagnoses were identified in 3 patients (see Table 1).

• On average 52.3% of CT KUB examinations detect alternate pathologies or reveal clinically important incidental findings. Only a few patients required repeat full imaging for loin pain regardless of the patient’s age.

• A proportion of CT KUB examinations detect alternate pathologies or reveal clinically significant findings. If a patient presents with loin pain, we cannot exclude the possibility of occult diagnoses on the CT KUB examination. In every patient, we perform a concurrent alternate imaging strategy for positive findings, regardless of the patient’s age.

• CT KUB remains an appropriate first line examination for loin pain regardless of the patient’s age.

Conclusions

• We retrospectively identified all CT KUB examinations performed at our University Teaching Hospital over a 6 month period (January - June 2016). Patients were excluded if they were referred with a non renal tract related pathology. In cases where a non renal tract related pathology was identified, it was also established how and when subsequent radiological investigations were requested to clarify the diagnosis. The incidence of non renal tract related incidental findings was compared to the overall population. This study demonstrates that the low-dose, non-contrast CT KUB remains an appropriate first line examination for loin pain regardless of the patient’s age.

Table 1. Missed diagnoses on CT KUB

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendicitis</td>
<td>13</td>
</tr>
<tr>
<td>Pyelonephritis</td>
<td>11</td>
</tr>
<tr>
<td>Colitis</td>
<td>10</td>
</tr>
<tr>
<td>Biliary duct dilatation</td>
<td>7</td>
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